Mach

CI 4
CI 6
CI 8

Manual for the CI series

Please read this manual carefully before attempting to install the product.

Every effort has been made to ensure that the contents of this manual are correct. Mach Speakers A/S does not accept any liability for loss or damage caused or alleged to be caused directly or indirectly by this manual. The contents of the manual may be subject to change without notice. Mach Speakers A/S makes no warranty of any kind with regards to this material.

Copyright 2004 Mach Speakers A/S

Reproduction in any matter whatsoever without the written permission of Mach Speakers A/S is strictly forbidden.

Mach Speakers A/S • Perspektivvej 2 • 9900 Frederikshavn • Denmark
Tel: +45 72 15 08 52 • Fax: +45 98 43 14 15 • e−mail: Mach-Service@martin.dk

P/N 35020017 Rev.A

Table of contents

Introduction	3
The CI series	4
Included items	5
Description of CI speakers	6
CI4, 6 and 8	6
Mounting bracket	7
CIW Subwoofer	8
How to install your CI speaker	9
Auxiliary mounting bracket	12
Mounting speaker on bracket	13
How to insert speaker cable	13
How to attach safety wire	14
Connecting to amplifier	15
Simple connection	15
Parallel system	16
Serial system	17
Maintenance of speakers	18
Warranty	18
Technical information	19
CI4	19
CI6	20
CI8	21
Troubleshooting	22
Ordering spare parts	23

Introduction

Thank you for purchasing a product from Mach Speakers A/S. Every effort has been made to ensure that our products fulfil your demands and we sincerely hope that we will live up to your expectations.

To get the most out of your Mach speakers and ensure an easy, trouble-free installation, please read the manual carefully and follow the instructions.

If you have any additional questions or comments please do not hesitate to contact our headquarters in Denmark at the following address:

Mach Speakers A/S
Perspektivvej 2
DK-9900 Frederikshavn
Denmark
Tel: (+45) 72150852

Or send an e-mail to: machservice&support@martin.dk

The CI series

The CI series has been designed specifically for contractors as a high quality, ultra-flexible solution with all necessary brackets included in one convenient package.

The CI4, 6 and 8 are all 8 ohm two-way speakers with a horn with uniform dispersion for very flexible positioning. The cabinets have been shaped to achieve both an appealing and attractive appearance and very easy mounting.

Special care has been taken to ensure that a minimum of tools are required for mounting and adjusting the speakers. In fact, once the bracket has been screwed to the wall no other tools are required, either for mounting the speaker on the bracket or for adjusting the speakerhorizontally and vertically.

The CI series has been designed for commercial venues such as cafés, clubs, department stores, conference rooms and hotels that require high fidelity in-fill sound.

The goal of the in-fill speaker design is to provide hi-fi performance with high speech intelligibility in a compact package. As background noise in these venues is typically located in the mid-frequency area, the in-fill speakers are acoustically optimized for clarity and openness in the mid-range.

The CI4 and CI6 are top-boxes that can be supported by the CIW subwoofer or the bass output of the venue´s main PA system. However, in environments with reduced demands for sound pressure they can also be used as stand-alone systems.

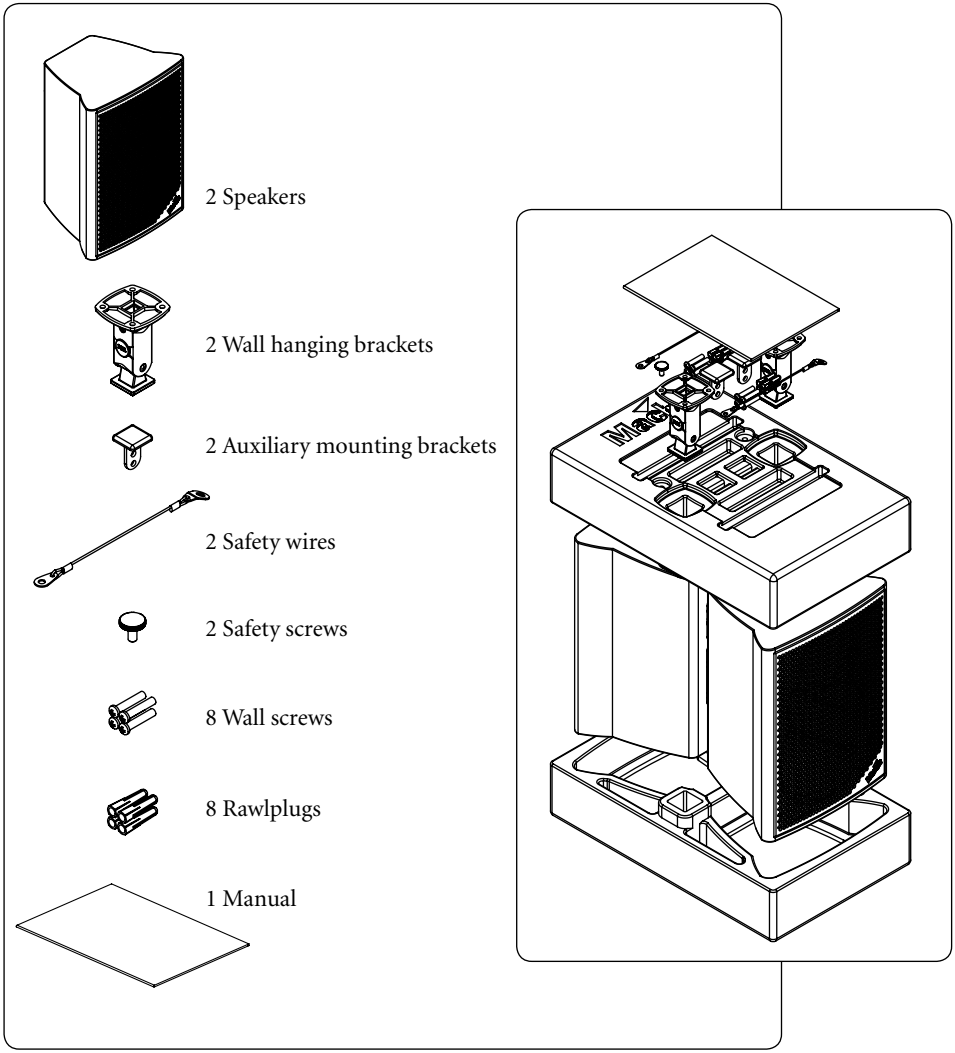
The CI8 is a full range speaker with usable bass output down to 60 Hz and can therefore be used as a stand-alone system in a wide range of applications.

The CIW is the perfect subwoofer supplement for the CI4, 6 and 8. It has an integrated high-pass filter that enables the sub and two top-boxes to be powered by one amplifier.

All Mach CI in-fill speakers have wide, even dispersion that ensures good coverage in low-ceiling applications.

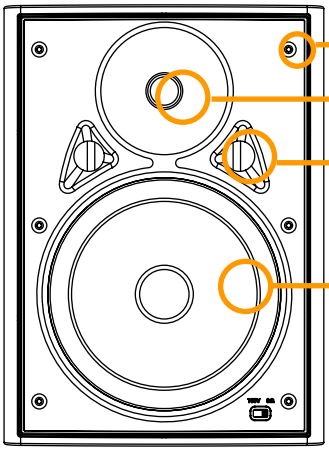
Contents of the box

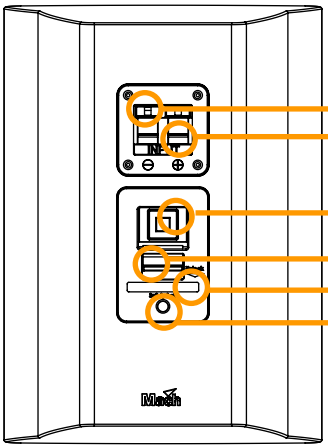
The Mach CI speaker is supplied as a complete system and your sales package should contain the following items:



Description of CI speakers

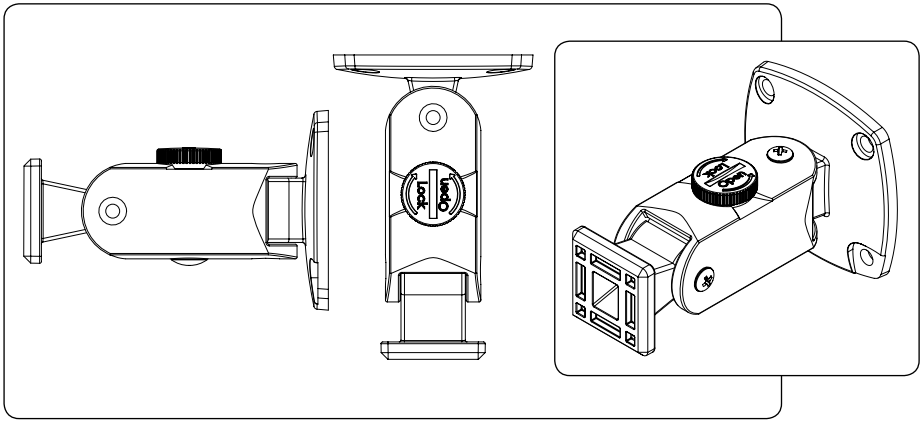
CI4, 6 and 8
The cabinet for the CI4, 6 and 8 speakers is made of ABS plastic to achieve the right combination of strength, functionality and design. The drawing below shows the functional features of the cabinet.



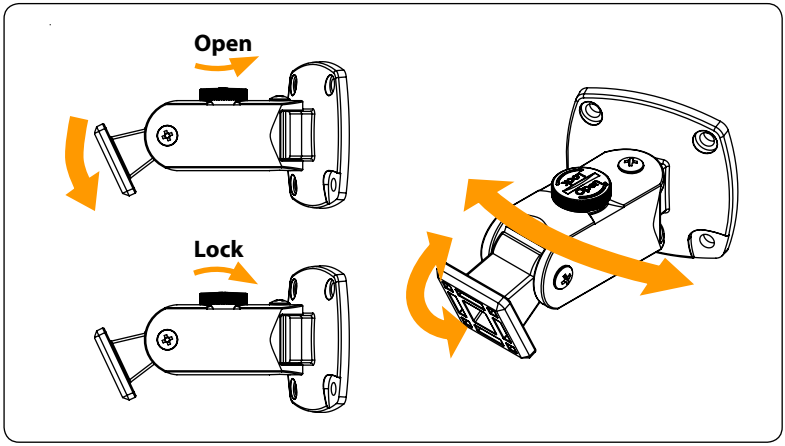


Mounting bracket

The CI series is supplied with a unique Mach TF mounting bracket that enables horizontal and vertical adjustment without the use of tools.
The Mach TF bracket is illustrated below

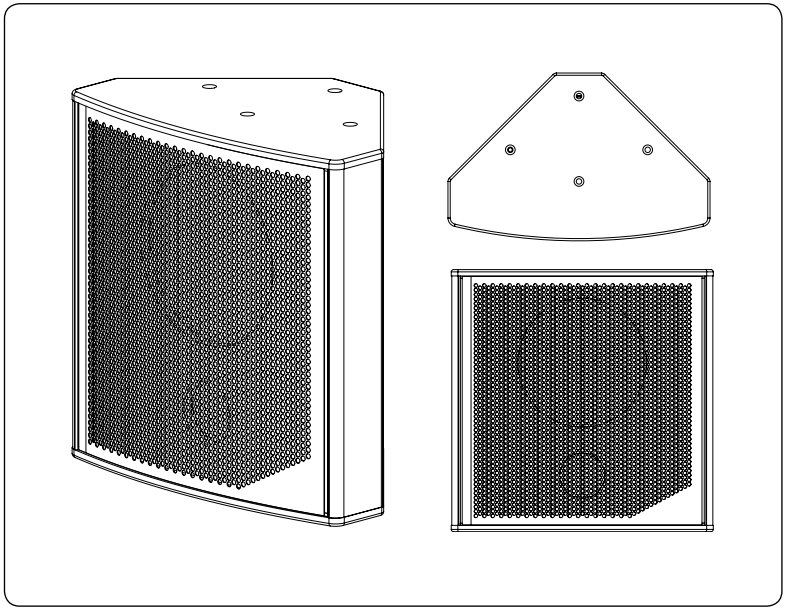


To adjust the bracket, loosen the round locking knob on the top of the bracket by turning counterclockwise, and adjust to the desired horizontal and vertical position. Tighten the locking knob and the bracket will be fixed in position as illustrated below:



CIW subwoofer

The CIW subwoofer is constructed as the perfect supplement for the CI4, 6 and 8 speakers. The CIW has an amazing low-end sound quality unmatched by any other competing subwoofer product and the unique cabinet construction enables easy, flexible installation.



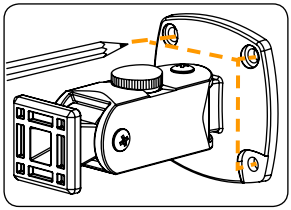
How to install your CI speaker

How to mount the bracket on the wall

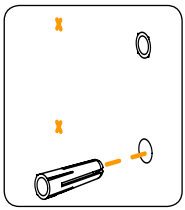
To mount the Mach TF bracket on a wall:

1. Find the correct position on the wall and mark where the base of the bracket should be positioned.
2. Take the bracket and hold the base flat to the wall at the marked position. Note: the locking button must point upward for correct positioning.
3. Mark each hole with a marking tool or a pencil.
4. Remove the bracket.
5. If using the supplied rawlplugs, drill four holes 40 mm deep using a 6 mm masonry drill.
6. Insert a rawlplug into each hole.
7. Position the bracket so that the mounting holes align with the holes in the wall. Note that one cornerhas a recess for the safety wire.
8. Screw the corner og the bracket opposite to the safety wire recess loosely to the wall.
9. Insert the end loop of the safety wire into recess, push a screw through the hole and tighten loosely.
10. Align the bracket horizontally.
    Insert the last two screws and tighten all 4 screws appropriately.

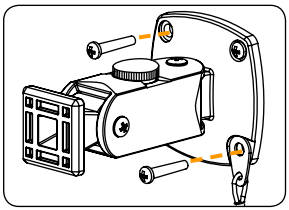
The bracket has been designed to carry a speaker no larger than the CI8 weighing no more than 6 kg(13.2 lbs)



Mark each hole with a marking tool or a pencil

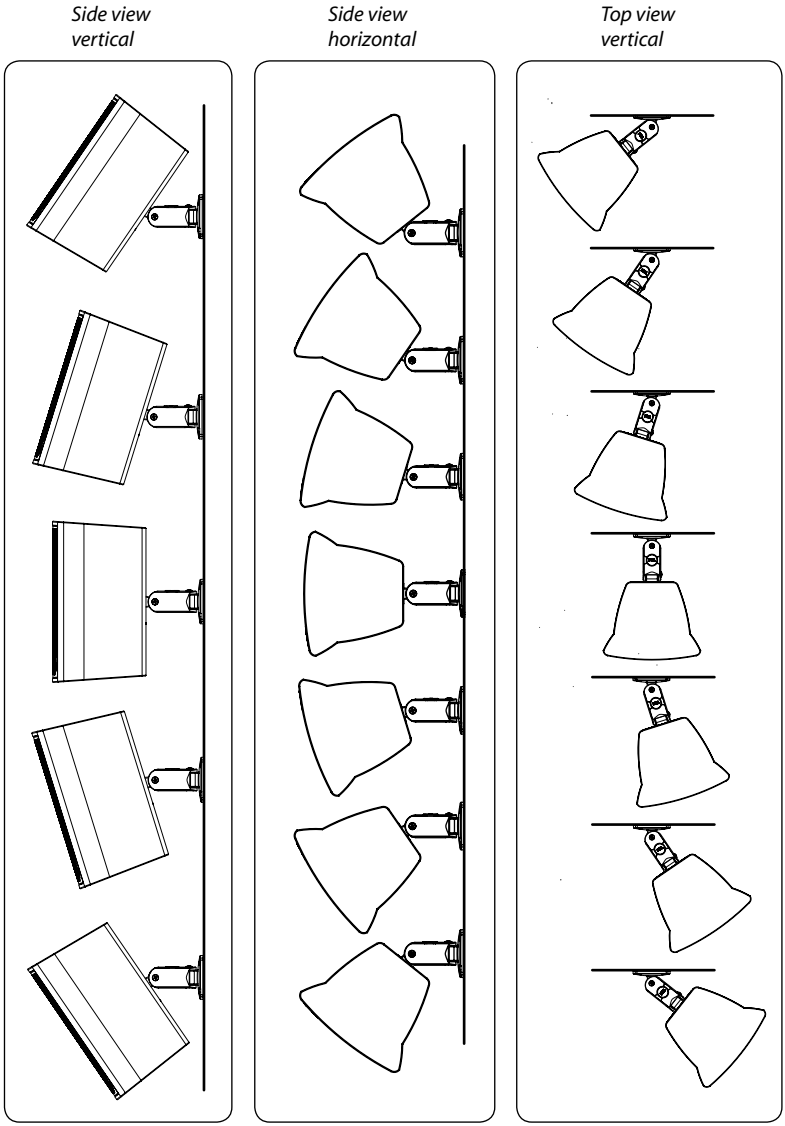


If using the supplied rawlplugs, drill four holes 40 mm deep using a 6 mm masonry drill.



Insert the end loop of the safety wire into its recess, push a screw through the hole and tighten loosely.

The Mach TF bracket is extremely versatile and can be used for mounting the speaker in most of the required positions as illustrated.



Wall mounting

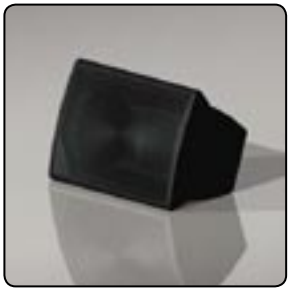
Wall mounting

Outdoor wall mounting

Ceiling mounting

Ceiling mounting

Mounting on pole



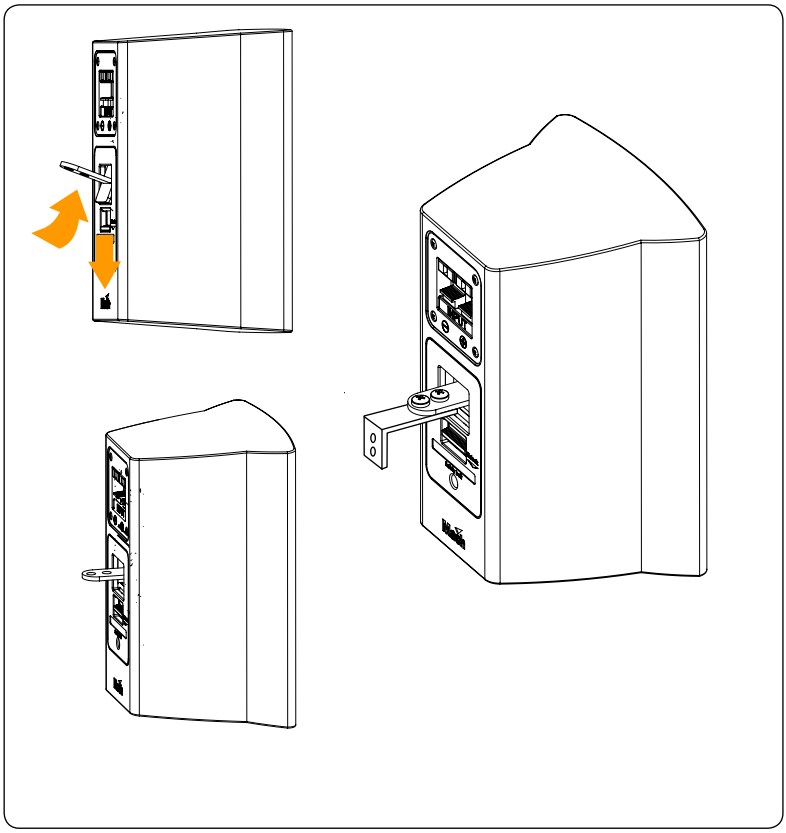
Table

Table

Mounting on pole

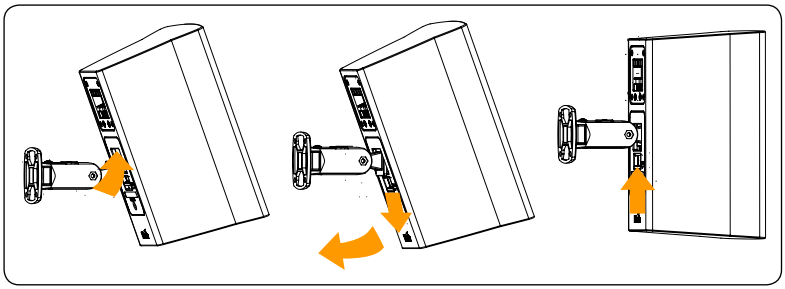
Auxiliary mounting bracket

For rare situations where the Mach TF bracket will not be suitable for mounting the speaker, the CI series is also supplied with an auxiliary mounting bracket. This bracket can still use the built-in quick release system in the speaker cabinet, but can be connected to any alternative type of wall bracket.



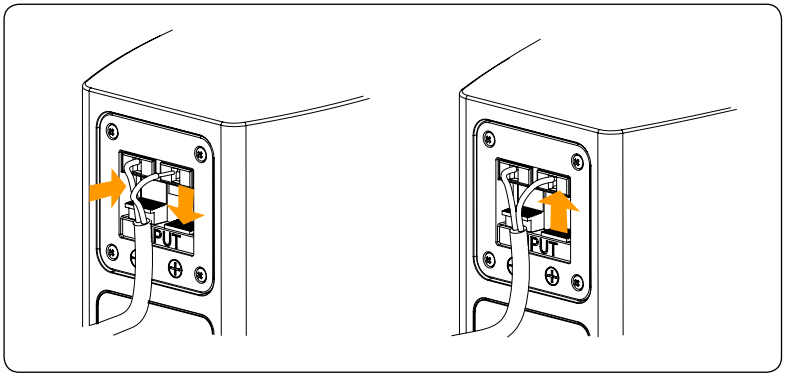
Mounting speaker on bracket

To mount the speaker on the Mach TF bracket, insert one side of the Mach TF end square into the speaker locking plate, press the locking button down and insert the other side of the end squeare. Once the end square is completely inside the locking plate, release the locking button and make sure that the end square is now locked tightly into place.



How to insert speaker cable

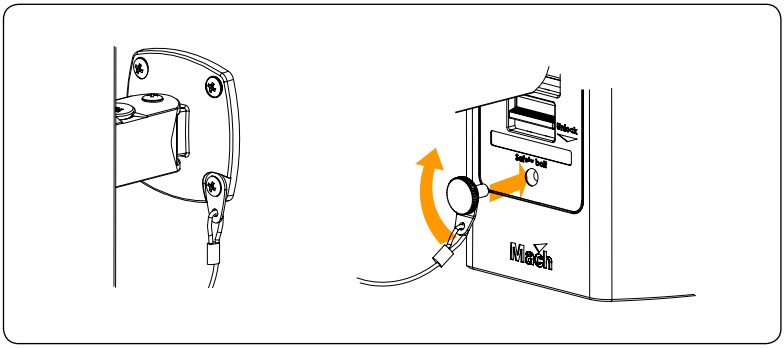
To insert the speaker cable press down on the two terminal buttons and insert the cable ends. Release the buttons to lock the cable in place.



The speaker cable can be aligned along the back of the speaker and secured to the safety wire with a cable strap.

How to attach safety wire

The safety wire is attached to the speaker at one end and the wall at the other. To attach the safety wire to the speaker, please screw the fastener screw tightly into the speaker cabinet.



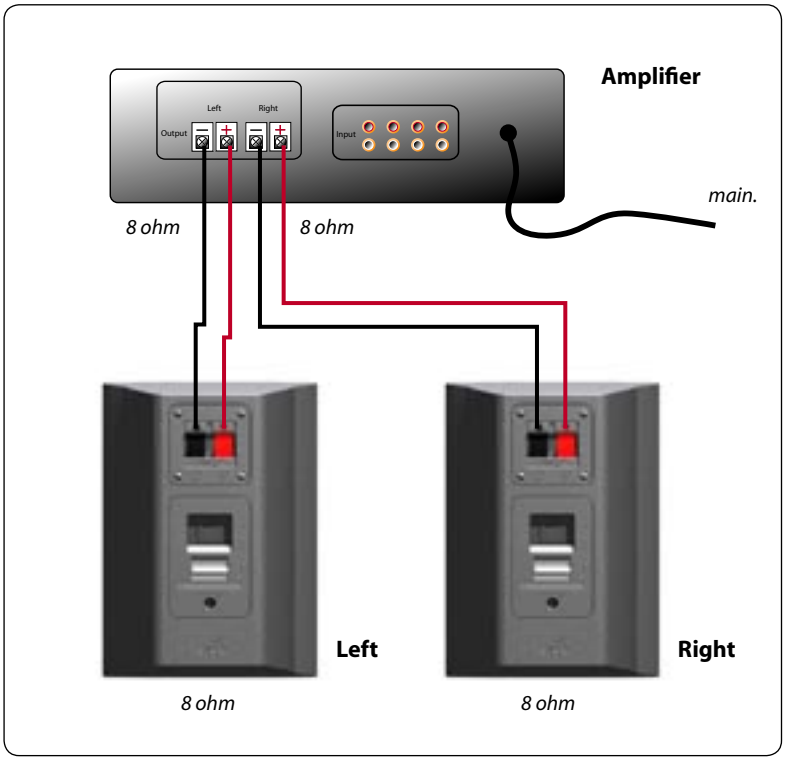
Connecting to an amplifier

The way you connect your CI speakers to your amplifier depends on the type of installation that you are creating and the type of amplifier used.

Simple connection

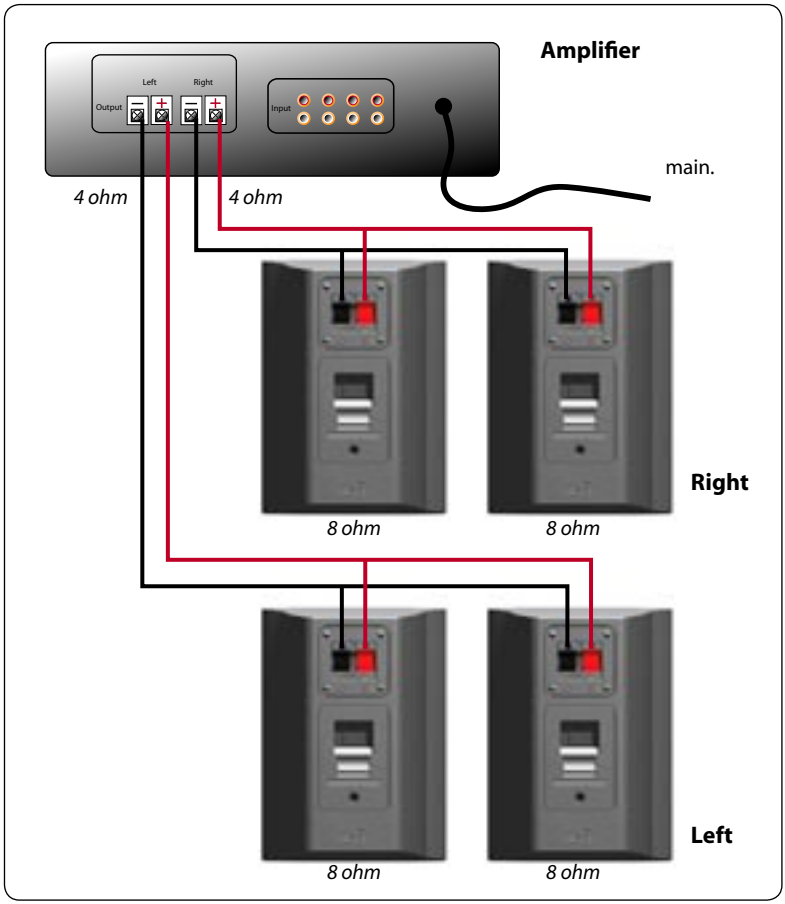
The most basic type of connection is a direct connection from one channel on the amplifier to one speaker. In this case connect the [+] terminal on the amplifier to the [+] terminal on the speaker and the [-] terminal on the amplifier to the [-] terminal on the speaker.

Warning! *Always check the amplifier manual to ensure that the loading of your speakers in serial or parallel connection complies with the amplifier specifications.*



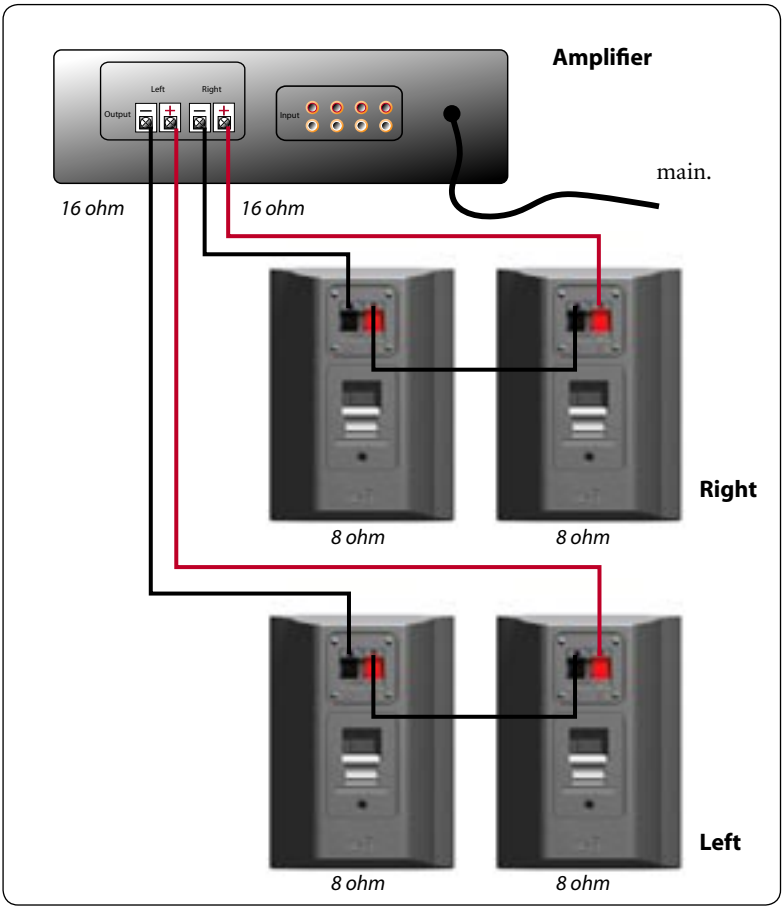
Parallel system

If you require more speakers for better sound distribution and you only have a limited number of output channels on your amplifier, you can connect more than one speaker to each channel. This can be done by linking the speakers for each channel in parallel as illustrated. However, always remember to check the minimum loading impedance specified for the amplifier. The max number of CI speakers that can be connected to each amplifier channel is calculated as follows: the impedance of the speaker (8 ohms for the CI series) divided by the min. specified impedance for the amplifier (often 4 ohms).



Serial system

If the amplifier has a minimum impedance of 8 ohms it is still possible to connect more than one speaker to each channel by using serial connection. When using serial connection, however, please remember that the output will drop according to the number of speakers attached to each channel.



Warning! *Always follow the amplifier instructions when connecting your speakers. A faulty setup can damage your amplifier and have a serious negative impact on the sound quality.*

Maintenance of speakers

Even though speaker systems normally only require very limited maintenance there are several things that you can do to ensure that your Mach system will sound as good 3 years after installation as on the day you bought it:

Never overload your system but stay within the specified limits for power handling.

Always keep the speaker clean and dry.
Even though the CI series is built to be weather resistant, the speakers are not able to withstand prolonged exposure to water. Over time, dust and dirt will also not only reduce the quality of the sound but can ruin the tweeter and woofer membranes.

As with any electrical product, currents will accelerate corrosion of metal surfaces. Therefore, it is recommended to check the terminals for corrosion at regular intervals, especially if the speaker is mounted in a hostile environment.

Warranty

For information on the warranty conditions specific to your country please refer to the material handed to you by your local Mach distributor.

Technical information

CI 4

Specifications:

Power rating IEC258	50W
Power rating peak	200W
Recommended amplifier	70W
Freq. Range +/-3dB	120Hz-20KHz
Freq. Range +/-10dB	80Hz-20KHz
Sensitivity 1W/1m	87dB
Nominal impedance	8 ohm
Woofer	4”
Tweeter	3/4”
Dispersion	90°
Flying system	TF bracket, Aux mounting bracket
Dimensions (H x W x D)	207x150x120mm (8.15x5.91x4.72in)
Net weight	1.8 Kg (4 lbs)

CI 6

Specifications:

Power rating IEC258	65W
Power rating peak	260W
Recommended amplifier	100W
Freq. Range +/-3dB	90Hz-20KHz
Freq. Range +/-10dB	70Hz-20KHz
Sensitivity 1W/1m	89dB
Nominal impedance	8 ohm
Woofer	6.5”
Tweeter	3/4”
Dispersion	90°
Flying system	TF bracket, Aux mounting bracket
Dimensions (H x W x D)	275x200x160mm (10.83x7.83x6.30in)
Net weight	2.7 Kg (5.9 lbs)

CI 8

Specifications:

Power rating IEC258	125W
Power rating peak	500W
Recommended amplifier	175W
Freq. Range +/-3dB	70Hz-20KHz
Freq. Range +/-10dB	60Hz-20KHz
Sensitivity 1W/1m	93dB
Nominal impedance	8 ohm
Woofer	8”
Tweeter	1”
Dispersion	90°
Flying system	TF bracket, Aux mounting bracket
Dimensions (H x W x D)	395x290x220mm (15.55x11.42x8.66in)
Net weight	5.2 Kg (11.5 lbs)

Troubleshooting

Installing a Mach professional speaker system should be problem-free. However, installation errors or amplifier faults can impair sound quality.

If cables are not connected in phase, or if connections are bad, you may experience lack of bass due to phase cancellation or
no sound at all. All cables must be connected positive to positive, negative to negative.

The speakers have passive components that cannot cause any noise, hiss or hum by themselves.
If you can hear any undesirable noise, check the amplifier or the cables.

Ordering spareparts

In the unlikely event of your speaker breaking down, some of the components can be ordered as spare parts.

Item text:	Item number:	Item text:	Item number:
Grille:			
Ci4	26000475	Wall bracket black	260600400
Ci6	26000476	Wall bracket white	260600410
Ci8	26000477		
Ci4W	26000478	Tweeter Ci4/Ci6	05851005
Ci6W	26000479	Tweeter Ci8	05851006
Ci8W	26000480		
		Woofer Ci4	05871003
Crossovers:		Woofer Ci6	05871004
XO4	06254065	Woofer Ci8	05871005
XO6	06254066		
XO8	06254067	Safety wire	62400400
70/100V module	06254068		
Cabinets:			
Cab4	26040060		
Cab6	26040061		
Cab8	26040062		
Cab4W	26040063		
Cab6W	26040064		
Cab8W	26040065		

Note! *W= White,*

For information on how to order in your country please contact your local supplier or contact our headquarters in Denmark at the following address:

Mach Speakers A/S
Perspektivvej 2
DK-9900 Frederikshavn
Denmark
Tel: +45 72150852

Or send an e-mail to: machservice&support@martin.dk

Supplier

Mach Audio Ltd

www.mach-audio.com